

WHAT IS CLAIMED IS:

1. A method of diagnosing cancer in a test mammal comprising assaying for the level of zinc  $\alpha$ -2-glycoprotein (ZAG) present in a biological sample from said test mammal and comparing that level to a biological sample from a control, non-tumor bearing mammal, wherein an elevated level of ZAG in the biological sample from said test mammal relative to said control is indicative of the presence of a tumor.

2. The method according to claim 1 wherein said biological sample is a liquid sample.

3. The method according to claim 2 wherein said biological sample is a plasma, urine, cerebrospinal fluid, seminal fluid, sweat or nipple aspirate sample.

4. The method according to claim 1 wherein the level of ZAG is assayed using an immunoassay, chromatography, electrophoresis, or solid phase affinity or densitometry of a Western blot.

5. The method according to claim 4 wherein the level of ZAG is assayed using an antigen capture or competitive immunoassay.

6. The method according to claim 1 wherein said method is a method of diagnosing prostate cancer.

7. The method according to claim 6 wherein said biological sample is a serum sample.

8. A method of diagnosing an inflammatory disease or disorder in a test mammal comprising assaying for the level of zinc  $\alpha$ -2-glycoprotein (ZAG) present in a biological sample from said test mammal and comparing that level to a biological sample from a control mammal, wherein an elevated level of ZAG in the biological sample from said test mammal relative to said control is indicative of the presence of an inflammatory disease or disorder.

9. The method according to claim 8 wherein said biological sample is a liquid sample.

10. The method according to claim 9 wherein said biological sample is a serum sample.

11. The method according to claim 8 wherein the level of ZAG is assayed using an immunoassay, chromatography, electrophoresis, or solid phase affinity or densitometry of a Western blot.

12. The method according to claim 11 wherein the level of ZAG is assayed using an antigen capture or competitive immunoassay.

13. The method according to claim 8 wherein said inflammation is of the breast, prostate, liver, or salivary, bronchial, gastrointestinal or sweat gland of said mammal.

14. A method of inhibiting thymic atrophy in a mammal comprising administering to said mammal an amount of an agent that reduces the bioavailability of ZAG or that inhibits the binding of ZAG to its receptor sufficient to effect said inhibition of atrophy.

15. The method according to claim 14 wherein said mammal is an adult bearing a tumor.

16. The method according to claim 15 wherein said mammal is undergoing cancer chemotherapy.

17. The method according to claim 14 wherein said mammal has an infection.

18. The method according to claim 17 wherein said infection is an HIV infection.

19. The method according to claim 14 wherein  
said agent is an anti-ZAG antibody or an antiandrogen.